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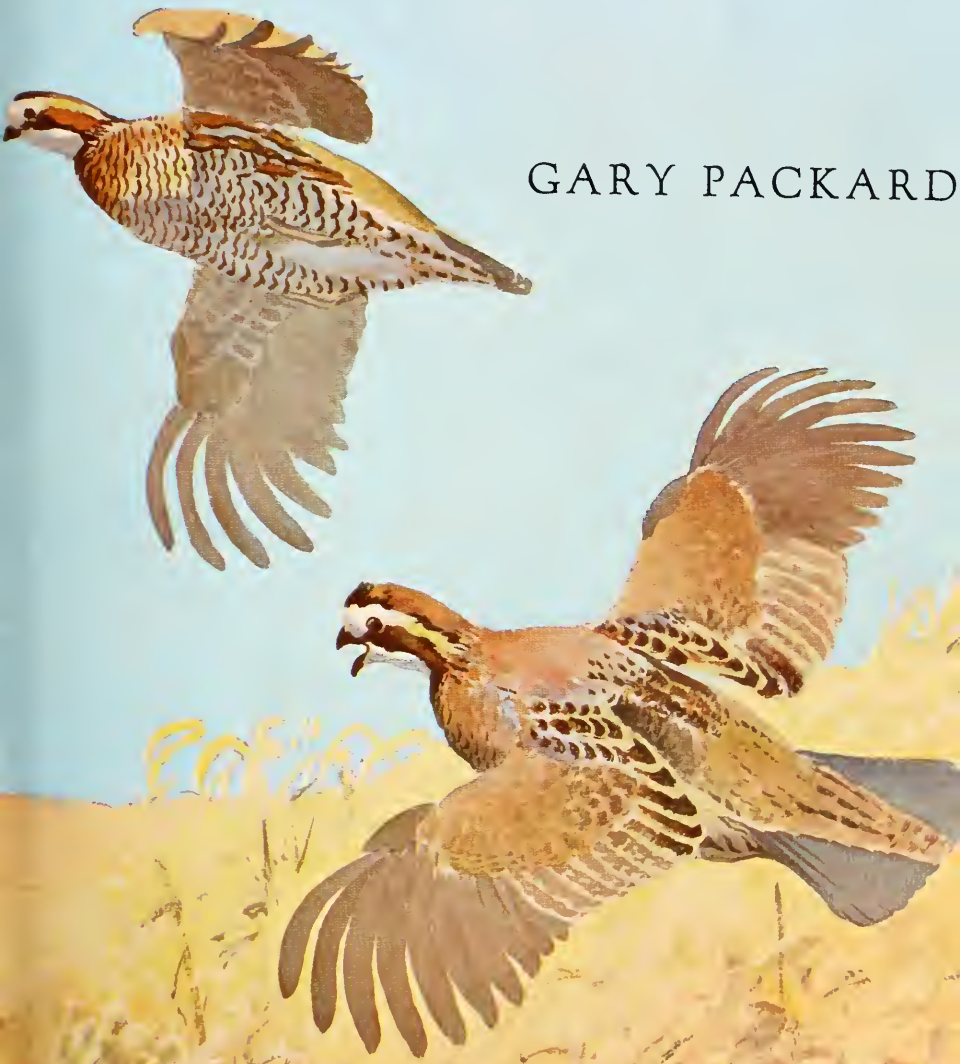
THE BOBWHITE IN KANSAS

GARY PACKARD



STATE BIOLOGICAL SURVEY, UNIVERSITY OF KANSAS, LAWRENCE

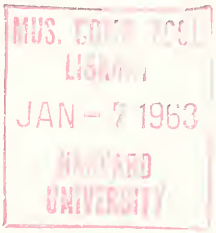
UNIVERSITY OF KANSAS

MUSEUM OF NATURAL HISTORY

EDITOR: E. RAYMOND HALL

Miscellaneous Publication No. 32, pp. 1-12
Published November 16, 1962

Lawrence • Kansas



PRINTED BY
JEAN M. NEIBARGER, STATE PRINTER
TOPEKA, KANSAS
1962

29-5623

The Bobwhite in Kansas

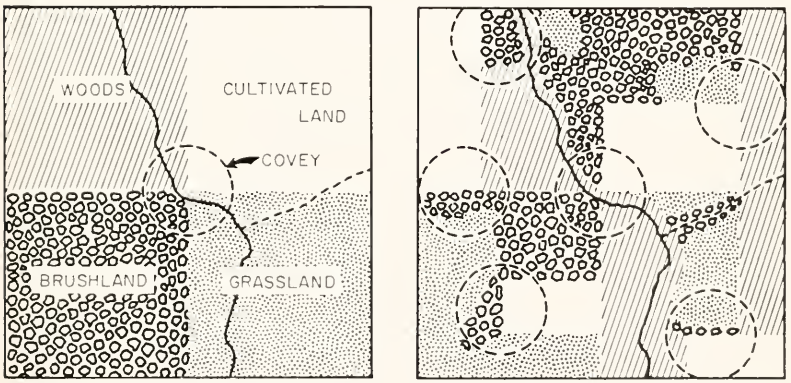
By GARY PACKARD

COVER

Eastern Kansas has some of the finest quail range to be found anywhere. In certain areas the autumn bobwhite population is consistently high and offers exceptional hunting. However, most tracts of land afford only a fraction of the hunting that they are capable of providing, and if a few modifications were made in the existing habitat, this potential could be realized.

Habitat is where bobwhite live. In order for habitat to be good it must provide all of those things quail need in order to survive and reproduce. In the better parts of its range the bobwhite is a bird of the farm, living in hedges, brushy field borders, and odd areas unsuited for cultivation. Successful management of quail in these areas depends upon the development of diversified vegetation with cropland, grassland, brushland, and woodland represented in about equal amounts and distributed in relatively small units. For a bird such as the bobwhite, which normally ranges over an area not exceeding one square mile in its entire life-time, this *interspersion* of habitat types provides for a greater number of *covey territories* than do large, continuous tracts of the same habitat type.

Within the habitat five types of cover seem to be essential for the year-round presence of quail. The first type is dead or dormant grassy-herbaceous growth and durable entanglements of brush that provide protection from predators and from sleet, snow,



Interspersion of habitat increases the number of quail, and of covey territories available for winter habitation by quail. (After Aldo Leopold, "Game Management," Chas. Scribner's Sons, New York.)

rain, and wind. This can be termed "emergency cover" and is used most in late winter and early spring.

The second cover type can be termed "loafing cover." Examples are the edges of brier patches, thickets of sumac and plum, and similar areas where birds can dust, scratch, or sun close to protective vegetation.

Next comes "nesting cover." Good nesting cover consists of ungrazed, unburned, and uncut grassy or grassy-herbaceous patches of vegetation. Since this cover is needed in the spring for nesting immediately after the breakup of the winter coveys, such growth should be in or adjacent to the winter quail range so that the pairing birds may easily find nesting sites.

Fourth of the cover types is "movement cover," those *travel lanes* composed of protective plant growth along fences and adjacent to woodlots and roadsides. If a high quail population is to be maintained, travel lanes are absolutely essential. Travel lanes allow the birds to move from one type of cover to another without being exposed unduly to danger.

The last type of cover is known as "woodland cover." Ungrazed woodlands with their excellent escape cover and abundant fall and winter food supplies are heavily utilized by quail.

It should be noted that these five types of cover essential to good quail-habitat are not mutually exclusive; for example, a properly managed fence row can be both escape cover and movement cover.

A properly managed fence row can provide movement cover, loafing cover, and nesting cover for bobwhites.

Grazed woodlots are unsuitable for late autumn and winter habitation by bobwhite owing to the absence of ground cover.

All of the practices that are required to establish the cover types listed above can be worked into the normal farm program. In fact, many of the necessary practices are not only good quail management but also are good land management and should be encouraged on the basis of their own merit.

How increase in habitat suitable for bobwhites increases their number is illustrated at Plum Thicket Farm in Barber County, Kansas. In the autumn of 1946 when Mr. Floyd T. Amsden acquired an overgrazed 640-acre section of land it supported two coveys totaling 25 bobwhites. By allowing native vegetation to return and by properly arranging food, water, nesting cover, and protective cover, 14 coveys of 169 birds were present in the autumn of 1948, and 37 coveys of 426 birds in 1952. Increasing density of vegetation may have accounted for the decline to 15 coveys (165 birds) in 1954. Grazing by cattle, beginning in 1958, opened up the cover and in the autumn of 1962 at least 25 coveys (about 325 birds) were present although the area was being used for grazing cattle and for some other purposes.

Take, for example, the question of grazing woodlands. Not only are grazed woodlands of less value aesthetically than ungrazed woodlands, but also they provide a much-reduced income from woodland products such as timber. It is impossible for a land owner to remove lumber from a grazed woodlot on a sustained

annual yield basis because there is no reproduction to replace felled trees; seedlings are either eaten or are so trampled that the forest floor is almost devoid of vegetation. And of course, the absence of ground cover in the woods makes the area unsuitable for late autumn and winter habitation by bobwhite.

During the winter and early spring many land owners burn roadside ditches and fence rows in order to remove the dead vegetation of the previous year. Much of this vegetation would provide nesting cover for early nesting quail if it were left intact. When this dead growth is removed, many birds are forced to build nests in the cover made available by the early growth of wheat and alfalfa. These birds are still incubating eggs when harvesting begins, and eggs are destroyed and, frequently, incubating adults are killed. Losses of this nature could be avoided simply by leaving some of the dead grass and herbaceous growth to attract and hold early nesting quail.

Construction of many more farm ponds in eastern Kansas in recent years has created new habitat for quail. Food plants and cover good for quail grow on the banks of properly constructed and properly fenced ponds. Quail will use this new habitat if it is continuous with other cover suitable for the birds. Since problems relating to construction of dams and soil conservation also

Undisturbed vegetation of field borders attracts early nesting quail.

Man-made brush entanglements provide excellent emergency cover.

enter into making new impoundments, the local Soil Conservation Service official should be consulted for detailed instructions.

If fence rows are few or absent, cover strips can be established where they will least interfere with the agricultural program. Such strips 40 to 50 feet wide and located at intervals of 200 to 300 yards are best, but narrower strips have considerable value. But, under no circumstances should these cover strips be narrower than 20 feet.

Frequently hedgerows and cover strips are established simply by not disturbing the soil. Volunteer growth of weedy perennials can be relied upon to provide a cover of the highest quality in only a few years. Establishment of cover in these areas can be speeded up by transplanting certain native shrubs and vines. Wild or cultivated plants that have been recommended for quail use include the following:

Blackberry
Coral Berry (Buckbrush)
Dogwood
Elderberry
Greenbrier
Hazelnut
Honeysuckle
Redbud
Sassafras
Serviceberry
Shiny Sumac
Viburnum (Black Haw)
Virginia Creeper
Wild Grape
Wild Plum
Wild Rose

Multiflora rose has been used extensively in many areas and also thrives in the eastern fourth of Kansas. When properly planted this rose grows into a stock-proof hedge that provides excellent escape and travel cover for quail. Multiflora is an upright, ever-growing, thorn-bearing, bushy shrub that grows rapidly and can easily be established from seedlings.

Food and Water

The bobwhite eats a wide range of animal and plant foods in its life time, but prefers some foods to others. Preferred foods include ragweed seeds, wild beans, and certain domestic grains, for example sorghum and foxtail millet. Preferences are apparent only among foods that are readily available; if the choicest items are not to be found, something else will be eaten.

In summer, insects form an important part of the bobwhite's diet. In fact, animal matter constitutes a major portion of the food taken by chicks, thereby providing them with the high-level protein diet necessary for rapid growth. But with the onset of cooler nights and shorter days in autumn, insects become less and less abundant, and quail turn to weed seeds and grains for food.

During extended periods of extreme weather the more nourishing staple foods may not be available because of ice or deep snow. Under such circumstances quail must use whatever food is accessible even though this food may not have the high nutritive value of the normally selected foods. Rose hips, sumac berries, locust beans, and other *emergency foods* are readily eaten. Quail usually cannot survive for more than a week on these foods in severe winter weather.

This raises the question of winter feeding. It should be pointed

Domestic grains are heavily utilized, particularly during winter.

out that the problem of winter feeding is permanently solved on those lands where quail food of high quality has been established as a part of the management program. But on some areas where food or cover is deficient in either quality or in quantity, it may be necessary to employ winter feeding to insure survival of an adequate breeding stock of quail through the winter. However, winter feeding is justified only when the birds really need feeding. In every winter, regardless of its severity, there will be some mortality among the birds, and it should not be assumed that these losses indicate a need for additional food.

Ice can lock up seeds.

Kansas does not often experience extended periods of deep snow or heavy ice that would seriously endanger quail populations. Bobwhite can survive several days of heavy snow and the associated food shortages without excessive mortality *providing there is good cover present to protect them from exposure.* Many birds that die from exposure are wrongly thought to have starved to death; provision of winter food would not affect survival of such birds. But when low ground-plants and shrubs are covered with snow or are coated with ice for upwards of five days, it may become necessary to distribute supplemental food.

The task of distributing food properly belongs to farmers and sportsmen rather than to employees of the Forestry, Fish and Game Commission. Due to the large area involved and due to the prohibitively high cost for the purchase and distribution of food over this area, it is not feasible for the Commission to conduct such a program. It is definitely more practical for individuals to engage in small-scale, independent feeding operations. Such independent action also increases the probability of the feeding program being successful since land owners and sportsmen are able to maintain a close watch on the quail population of one or two farms.

The best foods to use in winter feeding are heading types of grains. Mixtures of these grains provide a nourishing quail food that will see the birds through the critical period. It is not necessary to make available sand or any other form of grit because the birds can sur-

Winter feeding practices tend to concentrate quail and to make the birds vulnerable to predators.

vive without it. An individual quail can consume as much as one half pound of artificial feed in a week, and grain must be available daily for as long as the ice-cover persists.

Casual distribution of food along roadways or elsewhere, based on convenience of access, results in a needless waste of game food. If this food is to be of any value to a covey, it must be scattered in an area that is being used by the birds. In addition, the food must be scattered adjacent to good cover so that the birds have easy access to the grain without being exposed to unusual predation. The feeding spot should be moved occasionally since concentrations of quail will attract abnormally large numbers of predators.

Most persons do not conduct a winter feeding operation with the care necessary for success; the results of such programs often harm the quail, for example by causing them to be less successful in finding their own food. No one should attempt winter feeding unless he has the time and the desire to see it done properly.

Water requirements of bobwhite are usually satisfied by eating berries, succulent green vegetation, insects, dew, rain, and snow. Although permanent bodies of water are not necessary for bobwhites, such water is most certainly used if it is available.

Conclusion

On the preceding pages some suggestions have been made that should help interested persons to increase quail populations and to improve hunting. The key to increasing the number of quail is habitat improvement. By providing a suitable place for quail to live the land owner has done his share, and from that point on the quail will do the rest.

Transmitted October 10, 1962.

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